Description of Methodology for Webcast Metrics® and Webcast Metrics Local

BY TRITON DIGITAL®

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Customer Support

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Contents

1. Overview

This Description of Methodology (DOM) is a summary of the digital audio streaming measurement processes employed, including a general description of our measurement methodology, filtration processes, and reporting procedures.

1.1. Products and Services Included

Triton Digital's digital audio streaming measurement product and services included in the scope of the Media Rating Council (MRC) audit process, and therefore within this DOM, are:

- **Webcast Metrics**: Webcast Metrics (WCM) service measures and reports on aggregated digital audio streaming, including digital streaming of terrestrial broadcasts. Publishers obtain audio metrics from their aggregated digital audio streams through Webcast Metric client specific web-based user interface (or dashboards) but cannot obtain reporting related to streams owned or operated by other companies. Metrics are presented in the *Audience Detail* view of the WCM user interface are included within the scope of the MRC audit process, and therefore this DOM.

  Additional aggregated reports are made available to clients through the WCM user interface. These reports are outside the scope of the MRC audit, and are exclude from this DOM, which includes the *Real-Time Audience* and *Audience Analysis* views.

- **Global Ranker**: The Global Ranker is produced for each calendar month listing the top digital audio publishers and networks measured by Webcast Metrics services. The Global Ranker, which is also referred to as the "International Ranker" and "All Streams Ranker", reports aggregated digital audio activity regardless of the geographic location of the listener. The Global Ranker is released publicly with Triton Digital's U.S. Ranker and Digital Audit Insights & Trends report in the US & International Ranker on Triton Digital's website (https://www.tritondigital.com/resources/monthly-rankers/rankers-archive). Reported companies must opt-in for the public release of their digital audio metrics.

- **Webcast Metrics Local – Pandora Implementation**: Webcast Metrics Local (WCML) measurement service is a market-specific version of our standard Webcast Metrics product, enabling live and on-demand publishers to quantify the size and scale of the digital audio audience at the local level. Publisher specific implementations of this service are individually submitted and assessed for MRC accreditation. Pandora's implementation for Webcast Metrics Local measurement services is included within the scope of the MRC audit process, and therefore within this DOM.

The reported metrics for each of these products that are within the scope of the MRC audit process, and therefore within this DOM, are included in the table below:

Triton Digital Reported Metrics	Webcast Metrics	Global Ranker	Webcast Metrics Local (Pandora)
Average Active Sessions (AAS)	Yes	Yes	N/A
Total Listening Hours (TLH) (gross)	Yes	Yes	Yes
Total Listening Hours (TLH) (net)	Yes	Yes	Yes
CUME	LT-only*	N/A	Yes
CUME Rating (US Only)	N/A	N/A	Yes
Active Sessions (AS) (gross)	Yes	Yes	Yes
Active Sessions (AS) (net)	Yes	Yes	Yes
Session Starts (SS)	Yes	Yes	N/A
Average Time Spent Listening (ATSL)	Yes	Yes	N/A
Average Connected Streams–Quarter Hour (ACS-QH)	N/A	N/A	Yes
ACS-QH Rating (US Only)	N/A	N/A	Yes

*Webcast Metrics CUME reported metrics is in scope of the MRC audit process for publishers and stations using the LT-methodology only. This metric requires publishers to utilize the VID value discussed later in this document. Webcast Metrics reported CUME resulting from LT data collected from publisher implementations, where VID is not used, are not accredited by the MRC.

1.2. Products and Services Not Included

Triton Digital provides a variety of digital audio products and services that are not included in the scope of the MRC audit process, and therefore are not part of this DOM. These products and services include:

- Audio Streaming: Audio Streaming technology and services provide the infrastructure for delivering digital audio through Triton Digital's proprietary content delivery network (CDN) and media players, widgets and SDKs, as well as enterprise solutions. Specific services and technologies offered through Audio Streaming are leveraged to obtain the measurement streams for processing of reported WCM metrics for clients utilizing both Triton Digital Streaming services and WCM services. However, the full scope of Triton Digital's Streaming services are not within scope of the MRC audit procedures.
- Publishers are ranked globally, and in three distinct regions: US, LATAM, and EMEA. Additional Monthly Rankers are produced for each calendar month at the regional level, including US Ranker, LATAM Ranker, and EMEA Ranker, which list the top-performing digital audio publishers and networks measured by Webcast Metrics services. These reports only include the aggregated digital audio activity within the corresponding report region using information provided by the station. The US Ranker is published with the corresponding months' Global Ranker; whereas, the LATAM Ranker and EMEA Ranker are standalone publications. The regional Monthly Rankers are not included in the MRC audit process.

- Digital Audio Insights & Trends: Triton Digital provides additional digital audio insight and trends identified in respective calendar month for the Monthly Ranker. The Digital Audio Insights & Trends reports are not included in the MRC audit process.
- Webcast Metrics Local measurement service is a market-specific version of our standard Webcast Metrics product, enabling live and on-demand publishers to quantify the size and scale of digital audio at the local level. Publisher specific implementations of this service must be individually submitted and assessed for MRC accreditation, and are noted in the section above.
- Other metrics under Webcast Metric Local – Pandora implementation: Legacy Average Quarter Hours (L-AQH) and L-AQH Ratings (US Only) are generated from the legacy AQH rule which utilizes the 5-minute rule. They were previously in scope of the MRC audit as "AQH" and "AQH Ratings;" however, with the release of the MRC's Digital Audio Measurement Standards 18 January 2018, L-AQH and L-AQH Ratings (US Only) will no longer be accredited by MRC when used to report digital audio with dynamic content and dynamic advertising.
- Podcast Metrics: Podcast Metrics measurement service is built in accordance with the IAB's Podcast Technical Measurement Guidelines and provides data on the consumption of the publisher's podcast content. Podcast Metrics is outside the scope of the MRC audit process, and therefore this DOM.
- Audio advertising services: Yield-Op, TAP Ad Server, a2x Programmatic (publisher product), a2x Audio Ad Exchange (advertiser product), and Audience Management Platform or AMP (suite of audience engagement tools) are not included in the MRC audit process; and therefore, are excluded from this DOM.

Certain processes or technologies are also outside of the control of Triton Digital's collection, aggregation and reporting of the in-scope Services, including:

- Custom third-party or publisher developed media player or application solutions: Publishers using Triton Digital Streaming services and Triton Digital Webcast Metrics measurement services may elect to use Triton Digital developed media players, applications or SDKs. However, if a publisher elects to use a customized solution (with or without Triton Digital's SDKs), these media players and applications are outside the control of Triton Digital. Similarly, publishers hosting the audio feed in-house or through a third-party Content Delivery Network (CDN) require the use of customized technology by the publishers, and therefore are outside the control of Triton Digital. Triton Digital's quality control procedures encompass the different audio delivery methods utilized by our clients.
- Third-party/self-hosted audio feed: Digital audio streaming data collected by third-party CDNs or publisher self-hosted CDNs are outside the control of Triton Digital.
- CDN filtering procedures: Publishers using third-party CDNs or self-hosted CDNs may perform filtration procedures to remove suspect invalid events prior to submission to Triton Digital for Webcast Metrics measurement. These filtration procedures are outside the control of Triton Digital.
- Triton Digital data disclosed in Third Party Processor (TPP) systems: Specific metrics from Webcast Metrics, Monthly Ranker and Webcast Metrics Local (Pandora Implementation) are made available to third parties for distribution and use amongst their clients. Metrics that have been obtained, reproduced or further calculated upon to derive additional metrics outside of Triton Digital's control.

2. Measurement Methodology

Triton Digital performs “census based” digital audio streaming and audience measurement. No samples, surveys or panels are used in the collection, transformation, or display processes and procedures described herein. In each case, Triton Digital obtains data on each stream including the station, individual stream start time and individual stream duration. This methodology is based on all session activity recorded (subject to filtration procedures described in Section3 below).

Triton Digital uses two methods for collecting the data for these services:

1. Through raw log files of streaming activity collected daily from the Content Delivery Network (CDNs) hosting the radio station players (referred to as the “CDN log file method”);

   Or

2. Through client-side measurement, by collecting the data directly from the web-based player or mobile device (referred to as the “listener tracking method,” or “LT”).

2.1. CDN Log File Method

The CDN log file method involves obtaining log file information from the station’s content delivery network. The content delivery network may be maintained by Triton Digital through the Triton Digital Streaming services, a third-party such as Akamai or StreamGuys, or self-hosted by the publisher. When a publisher broadcasts an Internet audio stream, it is delivered to a content delivery network, which then distributes the streams via a network of geographically disbursed delivery points (servers), and logs the transactional activity. Individual log files are made available by the CDN for each station. It contains the details of all listener sessions for a given day. With respect to the scope of this document, the key data points within the log files are session identifying information, the stream start time, duration, the user agent and the IP Address.

Triton Digital clients (publishers) arrange, or approve, the release of the CDN streaming log files directly to Triton Digital by FTP in a predetermined format, if the publisher is not utilizing Triton Digital’s Streaming service. That is, the log files are generated and controlled by the CDN, and not the publishers. In specific cases, a publisher may act as the hosting CDN due to Digital Rights Management (DRM) constraints. Triton Digital’s quality control procedures extend over each of the delivery methods utilized by our clients.

2.2. Listener Tracking Method

Because Listener Tracking performs “client-side” measurement via the listeners’ browsers, it requires the integration of a tracking code in every ‘embedded media player.’ This code communicates with the

measurement servers during the streaming session. This method has also been referred to as the client-side tracking method, cloud-based measurement method, the HTTP listener tracking methodology, and the ping method.

Listener tracking can be implemented in a web player, a mobile app, or other device or application. In all types of implementation, the listener tracking functionality monitors and reports the initiation, continuation, and termination of the stream. Upon initiation of the stream, an initial start event is sent to the measurement servers identifying the stream (e.g., Station ID) and any additional optional information the station includes in the event string. The tracking system then continues to send events every sixty seconds as long as the stream is active (referred to as a ping event). If the user pauses the stream, the ongoing event is stopped until the listener resumes the stream. In cases where the pause event is less than three minutes, the ongoing event is resumed and the pause time is counted; otherwise, a new session is started (a new start event is sent). Finally, if the user ends the stream, the ongoing event is stopped, and if the user subsequently starts the stream again, a new session is started regardless of the time between the end event and the new start event.

Effectively, as described above, there are two types of events; a new session start event (also referred to as a new listener event) and an ongoing event (also referred to as a ping event). In response to the initial new listener event, the listener tracking system will return two parameters for the ping event: the interval at which the player should send the ping event; and a GUID, which is an encoded string composed of the station ID, date and time stamp, and a random number. Thus, this GUID is expected to be unique for each stream; however, the GUID will be the same for each ping event sent during a session.

Listener tracking can be implemented using an HTTP API, a Mobile XML API or a JavaScript API (A JS wrap of the HTTP API). The basic HTTP API is the most common method. Previous Flash-based versions of listener tracking are no longer maintained nor offered by Triton Digital.

Timestamp or random number are appended to the end of the URL string to reduce the chance of the listener tracking event being cached by local, proxy or network cache, and therefore not reaching the measurement servers.

2.3. Covered Devices

The Webcast Metric Local Pandora implementation utilizes the CDN and Listener Tracking measurement methodologies. Listener Tracking is currently used across the major operating systems, browsers, and mobile devices, Smart TV (Roku and Samsung TV), Google Home devices, and other devices capable of operating the web browser and player. CDN methodologies are currently in use on Sonos and Amazon Alexa.

Due to the limitation of the Listener Tracking method requiring the publisher to have control of the device application or player to properly include the Listener Tracking events, the publisher may elect to

use the CDN measurement approach to mitigate the potential of undercounting the user's digital audio activity on these devices.

2.4. Measurement Limitations

2.4.1. Domain Blocking Tools

With certain browsers, software, or tools, users have the ability to block content (including new session and subsequent ping events) based on the domain from which the content is being requested. Blocking techniques or software that prevent communication with the Triton Digital measurement servers would prevent both the communication of the new session start event and ongoing ping events, although the user would still be listening to the station/publisher stream as that originates from a different domain, resulting in an undercount of the streaming event, in this situation, for stations/publishers using the listener tracking method.

Stations that operate through a proxy or that use the log file method will not be affected as the communication of streaming events takes place between the CDN and the measurement server, not the browser/player and the measurement server.

These situations are not unique to Triton Digital. Additionally, these situations are difficult to quantify without special studies and analyses being performed.

2.4.2. Other Limitations

- A listener may mute their stream as a function of the player application, the operating system, or user's hardware. Triton Digital is not able to capture this event in all instances.
- Listener Tracking has the ability to detect and account for pause – however, as noted in Section 2.2 above on, in cases where the pause event is less than three minutes and the ongoing event is resumed, the pause time may be included in total listening time for the session.
- In some cases, audio players require JavaScript to be enabled. If JavaScript is disabled, the player itself will not execute, resulting in no call made to Triton Digital's servers. Triton Digital is not able to capture events in this instance; therefore, the session would not be counted.
- Similar to JavaScript, some audio players also require Flash to be enabled. If Flash is disabled, the player itself will not execute, resulting in no call made to Triton Digital's servers. Triton Digital is not able to capture events in this instance; therefore, the session would not be counted.
- We do not include all stations or networks in our ranking; rather, only those which subscribe to our Webcast Metrics© service.
- In the case of LT-based data, data are collected directly from the publisher's application. Triton Digital audits publisher applications periodically. Changes to applications between audit periods may affect the quality of the data collected.

- Triton Digital implements standard cache busting techniques by affixing a randomly generated string to all transactions. While this eliminates most caching, if caching occurs there is the potential for undercounting of the session.
- Triton Digital encourages publishers to discontinue to the use of auto-play and muted-player techniques. Triton Digital does not currently detect nor report on the use of auto-play or the use of muted or zero-volume techniques in the digital audio player.
- For publishers that operate on the CDN log file methodology and some LT methodologies, Triton Digital does not currently have the ability to determine if a player is buffering pre- or mid-stream as the communication of streaming events takes place between the CDN and the measurement server and not the browser/player and the measurement server. Therefore, any time incurred as a result of buffering would ultimately be included within WCM reporting. Additionally, measurement of these sessions could also be limited to a buffering threshold defined by the publisher.
- Webcast Metrics does not discriminate between ad-free content vs. subscription content that publishers make available. It is simply a measure of digital audio activity within the specified day parts and geography for the specified calendar month. Anyone who uses the information contained in our ranker agrees that Triton Digital will not be liable for any direct or indirect loss arising from the use of such information.
- LT methodologies require the publisher to have the ability to properly embed the Listener Tracking events into the audio player or device application.

3. General Invalid Traffic Filtration Procedures

Triton Digital employs techniques based on identifiers, activity and patterns based on data in the log files in an attempt to identify and filter (exclude) invalid activity, including but not limited to known and suspected non-human activity and suspected invalid human activity. However, user identification and intent cannot always be known or discerned by the publisher, advertiser, or their respective agents, it is unlikely that all invalid activity can be identified and excluded from report results. Details on our techniques are described below.

3.1. Invalid or Corrupted Log Data

Sessions or listener tracking pings that do not conform to the required format result in invalid or corrupt data being excluded from reported metrics. Publishers are provided documentation on the required listener tracking ping and third-party CDN session formats. It is the publishers' responsibility to implement these techniques as required for proper data collection.

3.2. One Minute Rule

Due to the nature of streaming activity, and the general behavior of robotic/spider related traffic, Triton Digital uses a process whereby streaming sessions with a duration of less than one minute are considered invalid and are removed from all measurement collected data. This rule reduces noise from extremely short sessions, robotic activities, and initial connectivity issues.

This rule applies to both data collection methods. When log files are provided by the CDN, sessions with a duration of less than one minute are not inserted in the database table used by Webcast Metric. When data collection is performed through the listener tracking method, a session is considered active upon the first ping event, which occurs after 60 seconds.

Sessions less than 60 seconds in duration are excluded from both gross and net reported metrics.

3.3. Robot Instruction File

Triton Digital uses the Robot Instruction File (robots.txt) in the root directory of the listener tracking and Triton Digital's Streaming servers.

3.4. Specific Identification of Non-Human Activity

Triton Digital uses the IAB/ABCe International Spiders and Bots List provided Spiders and Bots List[1] in order to exclude site-traffic associated with robotic activity from the collected data. For example, this filtering process allows us to exclude HTTP requests from search engines spiders (Google, Bing, Yahoo, etc.). This list is maintained by the Interactive Advertising Bureau (IAB) and updated monthly.

Additional lists are utilized and updated by Triton Digital to exclude invalid or include known-valid user agents, if those agents are not timely reflected within the IAB/ABCe Internal Spiders & Robots List.

3.5. Data Center Exclusion

Triton Digital uses the TAG Data Center IP address list in order to exclude industry identified non-human data center traffic. For example, it filters data from Amazon Data Center stream monitoring systems. This list is maintained by the Trustworthy Accountability Group (TAG) and updated monthly.

[1] For more information, refer to: https://www.iab.com/guidelines/iab-abc-international-spiders-bots-list/

3.6. Activity-based Filtration

Triton Digital employs multiple levels of activity-based detection procedures to exclude data anomalies generated by invalid traffic. Existing invalid traffic detection techniques and data trends are assessed for potential enhancements to our suite of activity-based detection procedures.

Invalid traffic generated by improper implementations by publishers or potential sources of invalid traffic are discussed with the publisher in effort to remediate the underlying issue and reduce the overall levels of invalid traffic.

3.7. Internally Generated Traffic

Based on IP address, Triton Digital removes internally generated stream session data from measurement collected data. Triton Digital's staff uses a virtual private network (VPN) which is a computer network that uses the Internet to provide office users with secure access for internal traffic. This VPN IP address is blocked from collection/reporting functions or excluded as invalid traffic. This rule applies to both data collection methods and is performed at the database level. Triton Digital also removes internal traffic generated by participating stations/publishers based on a list of publisher-provided IP address.

3.8. Inactivity Rule

In accordance with the MRC's Digital Audience-Based Measurement Standards, Triton institutes a specific "inactivity rule", by which the session duration is excluded from contributing additional time spent listening in reported metrics after a pre-determine threshold. Sessions with a duration greater than twenty-four hours are truncated at the twenty-four-hour in accordance with Triton Digital's inactivity rule. The time accumulated prior to this threshold is considered potentially valid for the session. The session is assessed against Triton Digitals suite of invalid traffic detection procedures, in addition to this inactivity rule.

Additional inactivity rules may have been applied by the publisher to continue the digital streaming and measurement of a session once the user confirms continued listening. Under Pandora's implementation the data transmission is ceased, and the session is potentially terminated, when the listener is prompted to validate continued listening. Pandora's inactivity rules are assessed through the MRC accreditation process.

4. Data Reporting

Whether using the listener tracking method or the CDN log file method, Triton Digital obtains log files for processing. Triton Digital's log processor system transforms the various log files and formats into a single Triton Digital processing format prior to further processing. To reduce the potential for excluding data due to delays at the CDN in posting the log files for Triton Digital's retrieval, and to provide reporting on longer sessions, Triton Digital processes log files four days in arrears.

During the initial log processing and transformation, an audit table is populated with information on logs retrieved, logs processed, and errors. Errors include: (a) situations where a compressed log file cannot be uncompressed, (b) invalid data, (c) any transform failures. In addition to being logged in the audit table as an error, these log files are removed from processing and held for manual intervention.

Additionally, streaming sessions that contain invalid or corrupted log data or are less than one minute in length are removed from processing. Triton Digital employs a deduplication process that ensures that duplicate records are rejected and not used for reporting. When log files are provided by the CDN, the deduplication process occurs when the file is uploaded from the CDN's server. If the file already exists in Triton Digital's local folder, it will be ignored. When data collection is performed through the listener tracking method, any redundant sessions are stripped out before being inserted in the final database table used by Webcast Metrics.

Once the data is processed, filtered, and aggregated, Webcast Metrics is updated, and stations may begin to review reports related to their streams.

4.1. Metric Definitions

4.1.1. Webcast Metrics Reported Metrics Definitions

The following metrics are reported to clients with the Webcast Metrics web-based user interface at the publisher, group and station level. The Webcast Metrics reported metrics are calculated from sessions converted to the stations' time zone.

- **Session Starts (SS)**: The number of sessions that were started in the reported period, after the application of Triton Digital's general invalid traffic filtration techniques.
- **Active Sessions (AS Gross)**: The total number of sessions with any duration in the reported period, regardless of whether the session started in the period. This metric includes sessions that may subsequently be removed by Triton Digital's general invalid traffic filtration techniques.
- **Active Sessions (AS) (Net)**: The total number of sessions with any duration in the reported period, regardless of whether the session started in the period, after the application of Triton Digital's general invalid traffic filtration techniques.

- **Average Active Sessions (AAS)**: The average number of concurrent sessions that were active during the reported period, after the application of Triton Digital's general invalid traffic filtration techniques. Calculated as Total Listening Hours (TLH) (net) divided by the number of hours in the reported period.
- **Total Listening Hours (TLH Gross)**: The total number of hours listened to in the reported period from active sessions. This metric includes the duration for sessions that may subsequently be removed by Triton Digital's general invalid traffic filtration techniques.
- **Total Listening Hours (TLH) (Net)**: The total number of hours listened to in the reported period from active sessions, after the application of Triton Digital's general invalid traffic filtration techniques.
- **Average Time Spent Listening (ATSL)**: The average number of hours for each active session in the reported period, after the application of Triton Digital's general invalid traffic filtration techniques. Calculated as Total Listening Hours (TLH) (Net) divided by Active Sessions (AS) (Net).
- **CUME**: The cumulative number of unique listening agents/identifiers with at least one active session in the reported period, after the application of Triton Digital's general invalid traffic filtration techniques. Triton Digital uses a combination of unique IP address/user agent, and publisher-supplied unique user ID (VID) to determine CUME. Note, the CUME metrics cannot be summed to create an aggregate. That is, you cannot determine the CUME of a group by summing the CUME of the component stations. This metric is accredited only when the Listener Tracking methodology is employed, and if the publisher provides a unique user ID (VID).

4.1.2. Global Ranker Reported Metrics Definitions

The Global Ranker presents the following metrics for each of the top measured publishers, ranked by Average Active Sessions (AAS). The Global Ranker metrics are calculated from sessions converted to the listeners' location time zone.

- **Average Active Sessions (AAS)**: The average number of concurrent sessions that were active during the reported period, after the application of Triton Digital's general invalid traffic filtration techniques. Calculated as Total listening hours (TLH) (Net) divided by the number of hours in the reported period.
- **Session Starts (SS) (Net)**: The number of sessions that were started in the reported period, after the application of Triton Digital's general invalid traffic filtration techniques.
- **Average Time Spent Listening (ATSL)**: The average number of hours for each active session in the reported period, after the application of Triton Digital's general invalid traffic filtration techniques. Calculated as Total Listening Hours (TLH) (Net) divided by Active Sessions (AS) (Net).

In accordance with the Media Rating Council's *Invalid Traffic Guidelines*, the Global Ranker discloses gross digital audio activity versus net measured digital audio activity. This is represented in Total

Listening Hours (TLH) and Active Sessions (AS). The following metrics are disclosed in the monthly Global Ranker for the respective reported daypart as an aggregate of TLH and AS across the top measured publishers:

- **Gross Total Listening Hours (TLH gross)**: The total number of hours listened to in the reported period from active sessions. This metric includes the duration for sessions that may subsequently be removed by Triton Digital's general invalid traffic filtration techniques.
- **Net Total Listening Hours (TLH net)**: The total number of hours listened to in the reported period from active sessions, after the application of Triton Digital's general invalid traffic filtration techniques.
- **Gross Active Sessions (AS gross)**: The total number of sessions with any duration in the reported period, regardless of whether the session started in the period. This metric includes sessions that may subsequently be removed by Triton Digital's general invalid traffic filtration techniques.
- **Net Active Sessions (AS net)**: The total number of sessions with any duration in the reported period, regardless of whether the session started in the period, after the application of Triton Digital's general invalid traffic filtration techniques.
- **% Filtered Total Listening Hours**: The total number of hours listened to in the reported period from invalid sessions that were excluded as a result of Triton Digital's general invalid traffic filtration techniques expressed as a percentage of the total listening hours.
- **% Filtered Active Sessions**: The total number of invalid sessions in the reported period that were excluded as a result of Triton Digital's general invalid traffic filtration techniques expressed as a percentage of the total active sessions.

4.1.3. Webcast Metrics Local Reported Metrics Definitions

The following metrics are presented for Webcast Metrics Local through a report generated application, accessed via a web-based user interface. The Webcast Metrics Local reported metrics are calculated from sessions converted to the listeners' location time zone.

- **Active Sessions (AS Gross)**: The total number of sessions with any duration in the reported period, regardless of whether the session started in the period. This metric includes sessions that may subsequently be removed by Triton Digital's general invalid traffic filtration techniques.
- **Active Sessions (AS) (net)**: The total number of sessions with any duration in the reported period, regardless of whether the session started in the period, after the application of Triton Digital's general invalid traffic filtration techniques.
- **Total Listening Hours (TLH Gross)**: The total number of hours listened to in the reported period from active sessions. This metric includes sessions that may subsequently be removed by Triton Digital's general invalid traffic filtration techniques.

- **Total Listening Hours (TLH) (net)**: The total number of hours listened to in the reported period from active sessions, after the application of Triton Digital's general invalid traffic filtration techniques.
- **ACS-QH (Average Connected Streams Quarter Hour):** The average of connected active audio streams after the application of Triton Digital's general invalid traffic filtration techniques, with attributed audience for a specific demographic category to the stream, stated on the basis of average minute within the reported daypart (based on duration weighting at the second level). This metric is applicable to streams with dynamic content and dynamic advertising. This is generally a metric used for planning advertising campaigns and excludes "ad free" or otherwise non-ad-supported content.
- **ACS-QH RTG (ACS Rating Quarter Hour):** The ACS-QH audience expressed as a percentage within a specified market demographic. This metric is expressed as a percentage and is calculated with the following formula: (ACS-QH / Population) * 100.
- **CUME**: The cumulative number of unique (unduplicated) listeners active for at least five minutes within the reported period, after the application of Triton Digital's general invalid traffic filtration techniques. CUME is calculated from the publisher-supplied unique user ID or user registration ID (VID).
- **CUME Rating (CUME RTG)**: Unique Listeners within the specified MSA, demographic and day-part expressed as a percentage of the MSA demographic population, after the application of Triton Digital's general invalid traffic filtration techniques.

[CUME / MSA Population] * 100 = CUME Rating%

4.1.4. Calculation Granularity

All time-based calculations are based in whole seconds and expressed in hours/minutes or hours/portion of hour.

4.2. Report Parameters

4.2.1. Webcast Metrics Report Format

Webcast Metrics reported metrics are available by hour, calendar day, week (Monday-Sunday) and month by all days/times. The client may select an alternative reported daypart (Mon-Sun 6a-Midnight, Mon-Fri 6a-10a, Mon-Fri 10a-3p, Mon-Fri 3p-7p, Mon-Fri 6a-7p, Sat-Sun 10a-7p or Mon-Fri 7p-Midnight) or range of sequential calendar days within the reporting UI. The client may further select to view the aggregated metrics across platforms (All, Desktop, Mobile Web, Mobile App, Smart Speaker and Other). The client can also display the report onscreen or export the report as .csv or Excel formats. Only data related to the publisher's own streams are accessible at the publisher, group or station level.

4.2.2. Global Ranker Report Format

Global Ranker metrics are produced in static reports for the calendar month across the following dayparts: Mon-Fri 6a-8p, and Mon-Sun 6a-Midnight. These reports are produced as a PDF and downloadable from Triton Digital's website (public access) and emailed to subscribed users.

4.2.3. Webcast Metrics Local Report Format

Webcast Metrics Local metrics are produced as static reports (downloadable, pre-generated PDF version) or dynamic, customizable reports (accessible through an interactive report generator) from data related to the publisher's own streams.

Static Reports

Clients access the static reports in the report repository of the Webcast Metrics Local user interface (The Console). The reports are generated on a monthly schedule for a reporting period based on a 13-month year, corresponding to existing broadcast reporting periods. The static reports are provided for predetermined local markets (MSA level), Network Radio (national level) and Key Markets (i.e., top 10 markets by population), and aggregated by demographics (age groups – 18-34, 18-49 and 25-54, total, and/or gender – Male and Female) and daypart.

The Network Radio report provides national level ACS-QH and CUME based on gender and in total (all), while the Key Markets and market reports provide ACS-QH Rating and CUME Rating based on MSA population. The dayparts reported are Monday-Sunday 6a-Midnight for the Network Radio report, and Monday-Friday 6a-7p and Monday-Sunday 6a-Midnight for the Key Markets and market reports.

Dynamic Reports

Clients interact with Webcast Metrics Local user interface to generate customizable reports based on market group (Network, Top 10 Markets, Top 50 Markets, Top 100 markets, Top 10 DMAs, Top 50 DMAs or Top 100 DMAs), local market or DMA, age group (13+, 13-17, 18-24, 18-34, 18-49, 21-34-, 21-49, 21-54, 25-34, 25-49, 25-54, 35-44, 35-64, 50+, and 65+) and daypart (Monday-Sunday 6a-Midnight, Monday-Friday 6a-10a, Monday-Friday 10a-3p, Monday-Friday 3p-7p, Monday-Friday 6a-7p, Monday-Friday 7p-Midnight, Saturday-Sunday 10a-7p and All days/times). The data is available based on the additional section of either calendar month or a three-month average (based on rolling calendar months). The data is presented by gender (male or female) and in total (or all, which also includes users with NULL or blank gender).

The customizable reports are outputted as a HTML report within the Webcast Metric Local user interface or a downloadable PDF report.

4.3. Preliminary and Finalized Reports

Webcast Metric data is initially processed on a four- and nine-day lag for daily, weekly and monthly reporting. Webcast Metrics reports are considered preliminary for 30 days after the end of the reported month, after which they are considered final data unless otherwise noted. Webcast Metrics Local and Global Ranker metrics are considered final upon release unless otherwise noted.

4.4. Time Zone Normalization and Geolocation Procedures

Webcast Metrics data is reported based on Station Time Zone normalization procedures. Global Ranker and Webcast Metrics Local are reported based on Listener Time Zone normalization procedures.

4.4.1. Station Time Zone Normalization

Digital audio measurement data is collected in UTC time and then converted to the daypart times available within the Webcast Metrics user interface. Daypart reporting within the interface is based on the location (i.e., time zone) of the stations, regardless of where you are and what time zone you are in. If the report generated is at the publisher or publishing group level, and includes stations across more than one time zone, the data is aggregated for the daypart of each station's respective time zone. For example, if a report is selected for the daypart "Mon-Fri 3p-7p", the report will include aggregated data from the "Monday-Friday, 3PM-7PM" daypart at the locations of the stations. This is referred to as "Station Time Zone Normalized".

4.4.2. Listener Time Zone Normalization

Session aggregated and reported for Global Ranker and Webcast Metrics Local are converted from UTC to the listener's location time zone for reporting. This is referred to as "Listener Time Zone Normalized". In order to assign the listener time zone, Triton Digital utilizes information provided by (1) the listener (user provided postal code, or if unavailable, user provided country code) or (2) a geolocation vendor derived from the ordination of the IP addresses (postal code based on IP address, or if unavailable, the location id assigned by the geolocation vendor). User provided data is prioritized over geolocation vendor supplied data.

If these data points are not provided by the geolocation vendor, and Triton Digital is unable to determine the user's location based on the above data points, the time zone is normalized to the Central Time for USA digital audio activity and UTC for all other activity.

Utilizing geolocation data based on IP address has certain inherent limitations due to potential differences between the user's physical location and the location the digitally connect to the internet. For example, users behind a proxy connection may be physically located in a different geography than

the proxy connection to the internet, which is generally the location associated with the IP address. Additional limitations exist in situations where the geolocation vendor is unable to determine the location information associated with the streaming session. These situations are not unique to Triton Digital.

4.5. Webcast Metrics Local Audience Reporting

Collecting data directly from client applications, Webcast Metrics Local uses registrant's five-digit zip code, year of birth and gender to determine listeners' MSA location and demographics for audience report breakouts.

4.5.1. Webcast Metrics Local Market Definitions

For a detailed list of Triton Digital Metro Streaming Areas definition by zip code, please refer to the following file:

https://tritondigitalv3.blob.core.windows.net/media/Default/Other/ZipByTritonMSA.pdf

4.6. Hyping/Failure

Where applicable, Triton Digital shall footnote in the published Global Ranker situations where there are known technical difficulties or hyping actions (i.e., power failure lasting multiple days, a natural disaster, stations offering cash incentives for listening for a certain period of time, etc.).

4.7. Data Confidentiality

Triton Digital does not share publisher nor station level Webcast Metrics/Webcast Metrics Local metrics between publishers.

Aggregated publisher metrics may be shared publicly through the release of the Global Ranker. However, Reported companies must opt-in for the public release of their digital audio metrics. A release agreement is maintained in these instances.

4.8. Quality Control

Potential clients undergo initial business partner qualification procedures, as required by the MRC, prior to access to Triton Digital's services and therefore reported metrics.

Triton Digital has relationships with a number of business partners, namely geolocation vendors, CDNs and industry organizations (supply invalid traffic filtration lists), that are considered material to our measurement services. These business relationships are also assessed as required by the MRC's Business Partners Qualification requirements.

Triton Digital conducts publisher audits on all new Webcast Metrics clients in order to ensure CDNs are not manipulating data, and that we are reporting valid metrics. Publishers metrics are not eligible for MRC accreditation unless the implementations are approved by Triton Digital.

Triton Digital also conducts periodic publisher audits on existing Webcast Metrics clients to ensure measurement implementations and data collection methodologies continue to operate within the minimum technical requirements needed for measurement and reporting.

Furthermore, daily, weekly and monthly automated and manual data reviews are completed to ensure the accuracy and completeness of the reported data.

4.9. Reissued Data and Notifications

Triton Digital will reissue data whenever an error or omission is found that affects any reported metric, for any station, by equal to or more than 5%, or would lead to a change in the ranking of affected station(s);

Triton Digital will communicate the above error or modification to clients via the Webcast Metrics© and Webcast Metrics Local interface or via the Triton Digital website if it affects one of our public rankers.

As it pertains to any future changes in methodology that may affect the overall measurement and reporting of reported metrics (i.e., AAS, TLH, CUME, ACS-QH, AS, SS, and ATSL), client will be notified via the Contact database (email).

4.10. Data Retention

As it relates to the in-scope services of this DOM, Triton Digital retains the detailed records of the sessions, and the aggregated reports, for a minimum of 13 months.